

TitanPH

The Titan Posthole force balance triaxial accelerometer is ideally suited for national networks and research applications requiring reliable and durable instrumentation for strong motion and freefield studies. The accelerometer is housed in a waterproof stainless steel enclosure and can be deployed in a direct burial posthole or cased borehole, which enables co-location with broadband posthole seismometers.

The Titan Posthole features industry leading dynamic range that, when combined with ultra-low self-noise



Titan Posthole

performance, mitigates cultural noise resulting in precise measurements and high quality data.

It is the first accelerometer to incorporate software selectable full scale range and offset zeroing capabilities. Operators will also appreciate the instrument's low power consumption, making the Titan Posthole the instrument of choice for difficult to access or remote deployments, where site visits should be minimized.

Industry Leading Performance Attributes

- Industry leading 166 dB dynamic range
- Ultra-low self-noise comparable to some broadband seismometers
- Wide operational frequency range: DC to 430 Hz
- Best in class thermal stability and high accuracy provide increased data quality
- Full scale range of ± 0.125 g to ± 4 g with independent horizontal and vertical range selection

Ease of Use

- Electronically selectable full scale range facilitates remote sensor control when deployments are distant or difficult to access
- Integrated web server provides efficient instrument management and control

Accelerometer Technology and Performance

	Triaxial, horizontal-vertical	
Topolog		
У		
Feedbac	Force balance with capacitive displacement	
Full Scale	Electronic electronic energy $\pm 4 g, \pm 2 g, \pm 1 g, \pm 0.5$	
RangeCenterin	gjectronic offset zeroing via user interface ± 0.25 g and ± 0.125 g (nominal)	
g Bandwidt	± 0.25 y, and ± 0.125 y (nonning)	
h		
Dynamic	166 dB @ 1 Hz over 1 Hz bandwidth	
Range	155 dB. 3 to 30 Hz	
(Integrated		
RMS)		
Offset	Electronically zeroed to within $\pm 0.005 g$	
Non-	<0.015% total non-linearity	
Linearity		
Hysteresi	< 0.005% of full scale	
s		
Cross-axis	< 0.5% total	
Cross-axis Digitali Gomman	d and Control Interface	
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Hardware Interface

Connecto	r 16-pin, underwater SubConn MCBH16MSS
	Captive cable shroud waterproof to 300m
Acceleration	40 Vpp differential
Output	
Output Impedane	ce 2 x 100 Ω
Calibration	Single voltage input, all channels enabled together
Input	
Control	Single control signal can be configured to initiate
Input	auto-zero, initiate self-test, or enable calibration
Status	Asserted: Init OK, output signal valid
Output	Deasserted: Self-test in progress or failed, auto-
	zeroing in progress, calibration enabled, or starting
	up
Power Serial	9600 Baud RS-232 compatible
Supply Volta	age 9 to 36 V DC isolated input
Power	1.1 W typical quiescent
Consumption	
Protecti	on Reverse-voltage and over-/under-voltage protected Self-resetting over-current protection
Isolatio	on Supply power is isolated from signal ground

Physical and Environmental

97 mm	
160 mm body and connector	
160 mm body and connector	
100 mm - bouy and connector	
3.3 kg	
-20°C to +60°C (Ultra-low temp. optio	on available.
Please contact Nanometrics.)	
40°C + 70°C	
-40° C to $+70^{\circ}$ C	
300 m continuous submersion	
ter Self-Noise	
Rated to IP68 for full submersion	
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	160 mm - body and connector 3.3 kg -20°C to +60°C (Ultra-low temp. option Please contact Nanometrics.) -40°C to +70°C 300 m continuous submersion Cer Self-Noise Rated to IP68 for full submersion Cer Self-Noise Rated to IP68 for full submersion Cer Self-Noise Rated to IP68 for full submersion Cer Self-Noise Cer Self-Noise Cer Self-Noise Cer Self-Noise Cer Self-Noise Cer Self-Noise Cer Self-Noise Cer Self-Noise Cer Self-Noise Cer Self-Noise

Sensor Performance: Flat Response

*Specifications subject to change without notice.

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